Amendments to the Specification:

(1) Please replace the paragraph of page 4, lines 1-18 with the following paragraph:

~~Figure 2 is~~ Figures 2A and 2B are an SDS-polyacrylamide gel and Western blot of recombinant PTX subunits. ~~Panel A left~~ The left-hand side of Figure 2A shows a Coomassie Brilliant Blue-stained gel of the recombinant PTX subunits produced in measurable amounts; ~~panel A right~~ the right-hand side of Figure 2A is a Western blot of a parallel gel utilizing a rabbit polyclonal anti-PTX hyperimmune serum. PTX indicates the lanes containing commercial-grade pertussis toxin. These results demonstrate that recombinant (r) S1, S2, S3, and S5 were all produced in significant amounts. The Western blot shows that rS1 is fully-processed from its preprotein species, rS2 and ~~rs5~~ rS5 are partially processed, and rS3 is not substantially processed under the conditions of fermentation; rS4 was not produced in sufficient amounts to be visualized. ~~Panel B~~ Figure 2B shows the products of expression as methionyl-mature recombinant (rm) subunits. These subunits are made in significant quantities with the exception of rmS1 (not shown).

(2) Please replace the paragraph of page 5, lines 12-13 with the following paragraph:

Figure 7 is the deduced amino acid sequence of rS1 mutant deriving from expression of pTXS1 (6A-3/4-1) (SEQ ID NO: 27).

(3) Please replace the paragraph of page 10, line 4 through page 11, line 11 with the following paragraph:

A detailed description of Amgen's expression vector system is described in published European Patent Application No. 136,490 and incorporated herein by reference. Such plasmids may contain an inducible promoter, a synthetic ribosome binding site, a cloning cluster, plasmid origin of replication, a transcription terminator, genes regulating plasmid copy number, and a

Kanamycin resistance gene. The derived plasmids differ from each other in a number of respects. The plasmid pCFM1036 can be derived from pCFM836 (European Patent Application No. [[#]]) 136,490 by substituting the DNA sequence between the unique AatII and EcoRI restriction sites containing the synthetic P_L promoter with the following oligonucleotides:

AatII EcoRI
5' CATCGATTCTAG 3' (SEQ ID NO: 1)
3' TGCAGTAGCTAAGATCTTAA (SEQ ID NO: 2)

The plasmid contains no inducible promoter preceding the restriction cluster. The plasmid pCFM1146 can be derived from pCFM836 by substituting the small DNA sequence between the unique ClaI and XbaI restriction sites with the following oligonucleotide:

ClaI XbaI
5' CGATTTGATT 3' (SEQ ID NO: 3)
3' TAAACTAAGATC 5' (SEQ ID NO: 4)

and by destroying the two endogenous NdeI restriction sites by end filling with T4 polymerase enzyme followed by blunt end ligation. The plasmid contains no synthetic ribosome binding site immediately preceding the restriction cluster. The plasmid pCFM1156 can be derived from pCFM1146 by substitution of the small DNA sequence between the unique XbaI and KpnI restriction sites with the following oligonucleotide:

XbaI KpnI
5' CTAGAAGGAAGGAATAACATATGGTTAACGCGTTGGAATTCGGTAC 3' (SEQ ID NO: 5)
3' TTCCTTCCTTATTGTATACCAATTGCGCAACCTTAAGC 5' (SEQ ID NO: 6)

The plasmid pCFM1152 can be derived from pCFM1156 by substituting the BglII to BglII (248 base pair) DNA fragment constituting the copB promoter and encoding a portion of the copB gene with the corresponding DNA fragment from the plasmid pCFM512 (European patent application No. [[#]] 136,490). This plasmid has a lower copy number than pCFM1156.